

Cristian Suarez

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SUMMARY

Senior computer science student at the University of Central Florida with 4+ years of C++ experience. Passionate about computer graphics, real-time rendering techniques, and performance driven real-time software development.

EDUCATION

University of Central Florida
Bachelor of Science in Computer Science

Orlando, FL

Fall 2021 – Spring 2025

University of Central Florida
Masters of Science in Computer Science

Orlando, FL

Fall 2025 – Spring 2026

ACADEMIC EXPERIENCE

Undergraduate Research

The basis of my research was established from recent work on plasmonic paint which uses artificial nanostructures to control which wavelengths of light are reflected. My research goal was to simulate this behavior in a ray tracer by running Finite-Difference Time-Domain simulations to calculate a reflection spectrum based on the nanostructure characteristics.

Computer Science Fundamentals

- Design and Analysis of Algorithms
- Systems Software
- Processes of Object Oriented Software Development

Computer Graphics and Rendering

- Computer Graphics
- Realistic Real-time Rendering
- Raytracing
- Teaching assistant for Computer Graphics class

PROJECTS

Senior Design Project | *Unreal Engine 5*

- Developed an autoshooter video game in Unreal Engine 5 over two semesters with a team of 6 people
- Strengthened team dynamics, collaboration, and communication skills
- Developed core gameplay systems and mechanics using Unreal Engine's blueprints

Direct3D Renderer | *C++, DirectX 11, WinAPI*

- Developing a 3D renderer using DirectX 11 and Windows API
- Model scene graph, various texture maps support, render queue
- Wrote an abstraction layer to allow for easy implementation of future graphics APIs

Realistic Volumetric Cloud Renderer In Unity | *Unity, C#, HLSL*

- Developed A realistic cloud renderer based on various technical papers and SIGGRAPH presentations
- Volumetric rendering using ray marching
- Realistic lighting using physical properties

TECHNICAL SKILLS

Languages: C, C++, Python, C#, Java, HTML, CSS, Javascript, GLSL, HLSL

Developer Tools: Git, GitHub, Make, CMake, Premake, Unity, Unreal Engine 5

Libraries/API's/Frameworks: DirectX 11, WinAPI, OpenGL

ORGANIZATIONS & HONORS

- UCF Knight Hacks
- National Science Foundation (NSF), Florida IT Graduation Attainment Pathways Scholar
- Accelerated BS to MS program member